American College of Radiology
ACR Appropriateness Criteria®

Penetrating Trauma-Abdomen and Pelvis

Variant 1: Adult. Penetrating trauma, abdomen and pelvis. Suspected upper urinary tract trauma. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTU without and with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	9	9	0	0	0	0	1	1	2	2	7
References: 7 (25600513)			Study Quality: 4												
CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	0	0	0	0	0	1	7	1	4
References: 7 (25600513)			Study Quality: 4												
CT abdomen and pelvis without and with IV contrast	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	1	0	3	2	4	3	1	0	0
References: 7 (25600513)			Study Quality: 4												
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	0	1	4	2	5	0	1	0	0
Radiography intravenous urography	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	3	3	2	3	2	4	0	2	0	0	0
References			Study Quality												

		7 (25600513)														
MRI abdomen without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	4	2	4	2	0	0	0	1	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	3	4	2	0	0	0	1	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	2	5	2	0	0	0	1	0
US kidneys and bladder retroperitoneal	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	2	1	7	1	0	1	0	1	0
MRI abdomen without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	4	3	4	1	0	1	0	0	0
MRU without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	5	6	2	1	0	0	0	0	0
MRU without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	2	7	4	1	0	0	0	0	0

Variant 2: Adult. Penetrating trauma, lower abdomen and pelvis. Suspected lower urinary tract trauma. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT pelvis with bladder contrast (CT cystography)	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	0	0	2	1	2	2	6
		References			Study Quality										
		7 (25600513)			4										
Fluoroscopy retrograde urethrography	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	8	8	1	0	0	0	2	1	2	1	6
CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	0	0	0	1	3	1	6	0	2

CT abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	1	1	3	2	4	3	0	0	0
CT pelvis with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	0	1	3	6	2	1	0	0
CTU without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	0	1	2	0	2	7	2	0	0
Fluoroscopy retrograde cystography	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv		5	5	1	0	1	3	2	3	2	1	1

References	Study Quality
7 (25600513)	4

Fluoroscopy voiding cystourethrography	May be appropriate (Disagreement)	Expert Opinion	☢☢ 0.1-1mSv	☢☢ 0.03-0.3 mSv [ped]	5	5	1	1	1	2	5	2	2	0	0
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	0	1	5	3	2	1	0	1	0
CT pelvis without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	0	1	4	5	1	1	1	0	0
CT pelvis without and with IV contrast	May be appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	0	1	6	2	4	1	0	0	0
MRI pelvis without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	3	4	2	0	0	1	0	0
MRI pelvis without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	2	3	4	2	1	0	1	0	0
US pelvis (bladder and urethra)	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	1	2	4	2	2	1	1	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	3	5	2	2	0	0	0	1	0

MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	2	5	3	2	0	0	1	0	0
MRU without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	5	5	1	3	0	0	0	0	0
MRU without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	4	4	3	3	0	0	0	0	0
Radiography intravenous urography	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	8	5	0	1	0	0	0	0	0

Appendix Key

A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

Appropriateness Category: The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

SOE: Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality**: The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

RRL: Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

Rating: The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Median: The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Final tabulations: A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at **www.acr.org/ac.**